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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/364,788	07/30/1999	BENJAMIN N. ELDRIDGE	P84-US	9878

7590 12/18/2001

FORMFACTOR, INC.
Legal Department
5666 La Ribera Street
LIVERMORE, CA 94550

EXAMINER

NGUYEN, SON V

ART UNIT	PAPER NUMBER
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2839

DATE MAILED: 12/18/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/364,788

Applicant(s)
Eldridge et al.

Examiner
Son Nguyen

Art Unit
2839



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Sep 28, 2001

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 58-75 is/are pending in the application

4a) Of the above, claim(s) _____ is/are withdrawn from consideration

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 58-75 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirements

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☒ The proposed drawing correction filed on Sep 28, 2001 is: a) ☒ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 58-63, 66-72 and 75 are rejected under 35 U.S.C. 102(b) as being anticipated by Grabbe et al. (US 5,152,695).

Grabbe et al. discloses an electronic component [figure 1] comprising:

- a substrate [14] including a conductive area connected to a terminal;
- a resilient, conductive contact structure [10] comprising a base portion [20] attached to the conductive areas, a tip portion [24] displaced away from the substrate, and a beam portion [22] integrally connected between the base and the tip portion;
- a width of the beam portion decreases along a length of the beam portion;
- the substrate composes a semiconductor device [not shown];
- the contact structure comprises a metal layer; and
- the tip portion comprises a beveled peripheral edge and a pointed end [26]; and
- a second substrate [46] including a conductive contact element [48] contacts to the tip portion of the contact structure.

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 64-65 and 73-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabbe et al. and Smith et al. (US 5,944,537).

5. Regarding claims 64 and 73, Grabbe et al. discloses the instant claimed invention except for the contact structure comprises a plurality of metal layers.

Smith et al. discloses a contact structure having a plurality of metal layers [19, figure 12].

It would have been obvious to one having ordinary skill in the art at the time invention was made to modify the contact structure of Grabbe et al. to provide a plurality of metal layers as taught by Smith et al. in order to improve the elastic properties of the contact structure.

6. Regarding claims 65 and 74, Grabbe et al. discloses the instant claimed invention including a pitch of two adjacent contact elements having a range of 20-12- microns [column 8, lines 44-45]. However Smith et al. does not disclose the pitch having a range of 2.5-2000 microns. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the pitch range of the two adjacent element contacts of Smith et al. to have a range of 2.5-2000 microns in order to accommodate with a fine corresponding pitch of mating contacts of the another substrate, since it has been held that where the general

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conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Response to Arguments

7. Applicant's arguments with respect to claims 43 and 50 have been considered but are moot in view of the new ground(s) of rejection.

Grabbe et al. and Smith et al. shows applicant claimed an electronic system (see the rejection described above).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son Nguyen whose telephone number is (703) 308-8745.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus, can be reach on (703) 308-3119. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1782 .

SN

Son Nguyen

December 12, 2001


BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800